

## Korean species of Thyrididae(Lepidoptera)

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**Abstract** A total of nine species belonging to four genera of Thyrididae in Korea is revised. Among them *Rhodoneura shini* sp. nov. and *Thyris fenestrella seoulensis* subsp. nov. are described as new to science, and *Rhodoneura pallida* (Butler) and *Striglina venia* Whalley are reported for the first time from Korea. *Striglina paravenia* Inoue is determined as a synonym of *S. cancellata* (Christoph). It was confirmed that the previous record of *T. usitata* Butler in Korea is a result of misidentification of *T. fenestrella* Scopoli in Korea.

**Key words** systematics, Lepidoptera, Thyrididae, *Thyris*, *Striglina*, *Rhodoneura*, *Sericophara*, Korea.

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### INTRODUCTION

Only six species; *Thyris usitata* Butler, *Striglina cancellata* (Christoph), *S. fixseni* Alpheraky, *Rhodoneura vittula* Guenée, *R. erecta* Leech and *Sericophara guttata* Christoph have been reported from Korea. Among them *T. usitata* was a misidentification of *T. fenestrella*. *S. fixseni* was first described from Chemulpo of which the present name is Incheon, 70km west of Seoul, and *S. guttata* was previously reported from Korea by Seitz(1912), but they have not been cited in any other Korean literatures to date. In the present paper, the authors revised nine species, belonging to four genera, including a new species, a new subspecies and two unrecorded species from Korea, with illustrations of their external morphology and genitalic characters.

Most of the examined specimens collected from various areas are now preserved in the Center for Insect Systematics, Kangweon National University, Chuncheon and some are in the Department of Entomology, Institute of Agricultural Science, Suweon, Korea.

The first author wishes to express his sincere thanks to Mr. M. Shaffer, Nat. Hist. Mus., London for his valuable advice and informations in determination of the species and his allowance to examine the related specimens in the collection when visited there at the early of this year, and Dr. H. Inoue, Japan for his help in the loan of several specimens for the further examination. The materials that include domestic localities are referred with their provinces of which the abbreviations are as follows :

GG: Gyeonggi-do (Province),    GW: Gangweon-do,  
JB: Jeollabuk-do,                JN: Jeollanam-do,  
CB: Chungcheongbuk-do,       CN: Chungcheongnam-do.

## DESCRIPTION

*Thysis* Laspeyres, 1803

*Thysis* Laspeyres, 1803, Magazin Insektenk, 2 : 39.

(Type species : *Sphinx fenestrina* Dennis & Schiff.)

Synonym: *Apyralis* Hübner.

*Thysis fenestrella seoulensis* sp. nov. 감둥이창나방

(Figs. 3, 4, 5, 5a, 5b, 6, 9)

*Thysis usitata* Butler, 1983, Insecta Koreana, 3: 157 (misidentification).

**Male and female.** Wing expanse 16–18 mm. Head with appressed goldish orange hairs. Second segment of labial palpus with whitish tufts ventrally and mixed with goldish orange scales dorsally; terminal segment whitish brown inwardly and mixed with greyish brown scales outwardly. Legs black laterally; underside of fore-femur whitish yellow, that of tibia and tarsus pale yellowish brown; mid- and hind-tibia with creamy white pubescence at apex. Abdomen beyond 7th segment ventrally with white scales.

Forewing dark purplish brown, 3 distinct golden yellow spots near 1/4, 1/2 and 3/4 of costa, and a long spot developed before apex; some other brown spots beyond cell and near tornus, and some more irregular speckles along inner margin; upper transparent hyaline spot elliptical and lower spot smaller than the upper one. Hindwing with numerous golden orange speckles between white transparent spot and outer margin; lower transparent spot bordered with upper spot on vein M. A distinct separable character of *fenestrella*-group from *usitata* (Fig. 2) is transparent hyaline spots on forewing which are well separated into upper and lower one, while single spot in the latter. No convincing difference in the external appearance has been found within the subspecies, however it would seem most likely that the Korean species would be a subspecies of *fenestrella* because they appear to represent an isolated population of the widespread species, *fenestrella*, and some remarkable characters to reveal clearly the defined subspecies were observed in male genitalia, though they show some variations within this population as described in the male genitalia.

**Male genitalia.** (Figs. 5, 5a, 5b, 6). Very similar to those of the nominate subspecies, *ussuriensis* and *siberica*, but some separable characters from the latter were observed as follows: pseuduncus is much more slender, sharply elongate and the shape of denticles along the costal margin of ampulla shown some separable characteristics within the subspecies, even with some variations. Cornuti with 13–14 long spines in one row and about 10 spines in the other, instead of 6–8 spines in *ussuriensis* Z. (Zagulyaev, 1985).

According to the comparison on male genitalia of several specimens in the collection of Nat. Hist. Mus., London by the first author, it seems that Korean subspecies, *seoulensis* sp. nov. is more similar to *siberica* T. than to *ussuriensis* Z. in spite of its relations with the geographical aspect.

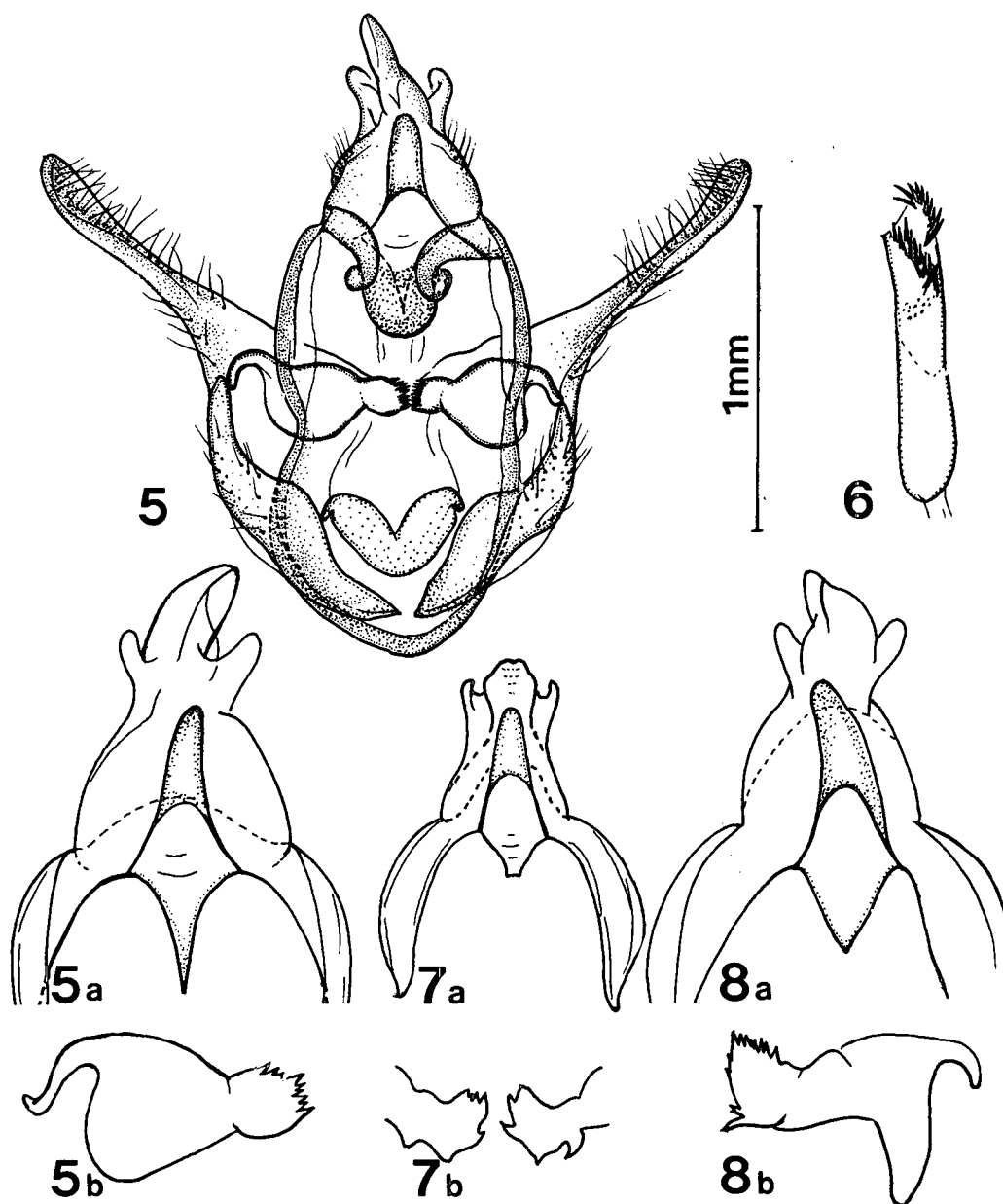


Figs. 1-4. 1. *Thyris fenestrella* Scopoli, male, Germany (J. H. R. Thiele coll.), 2. *Thyris usitata* Butler, male, Japan (S. Sugi coll), 3. *Thyris fenestrealla seoulensis* subsp. nov., male, 4. ditto, female.

**Female genitalia.** (Fig. 9). The female genitalia of *fenestrella*-group appears to be remarkably uniform, with only a slight variation in the extent of the sclerotized band at the top of the ductus bursae. No remarkable differences are also found within the subspecies. The position of appendix bursae in the figure supplied by Zagulajev (1985) is incorrect and it is positioned distally as figured. Presumably the mistake arose during dissection.

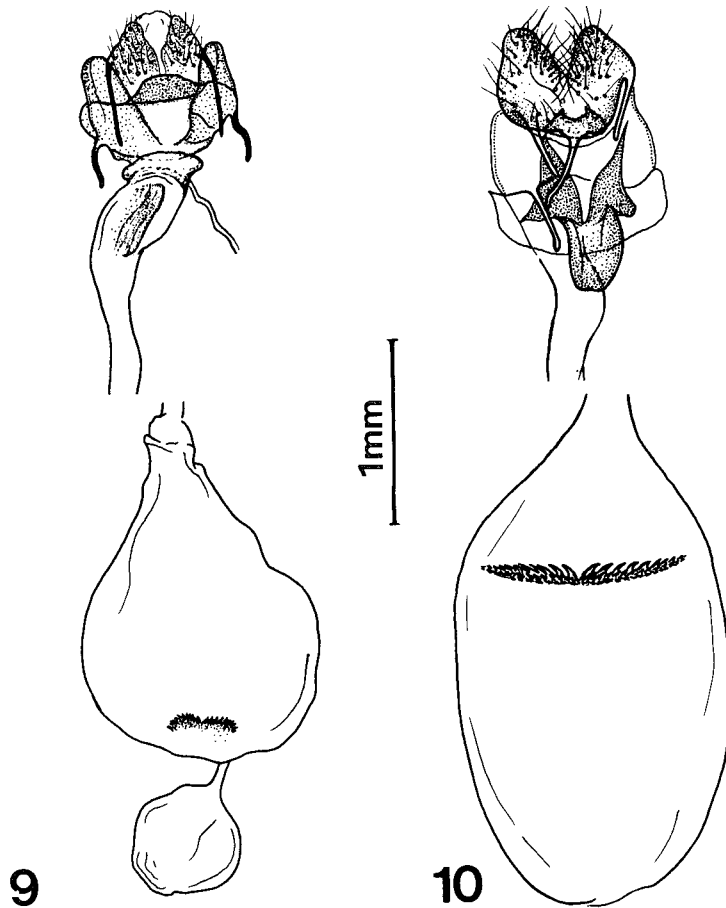
**Material examined.** Holotype: male, Mt. Ungil, GG, 5. VI. 1986 (M. H. Ko)-gen. slide no. 1693; Paratypes: 1 ♂, Mt. Cheonma, GG, 19. V. 1979 (Y. H. Shin)-gen. slide no. 2139; 1 ♀, Ansong, GG, 14. V. 1988 (S. B. Ahn); 2 ♂, 1 ♀, Gwangleung, GG, 29. V. 1983 (K. S. Cho et S. B. Ahn); 1 ♂, Gwangleung, GG, 8. VIII. 1982 (C. H. Rhu); 1 ♂, Mt. Cheunggyae, GG, 12. VIII. 1976 (K. T. Park); 1 ♀, Mt. Taewha, GG, 23. V. 1983 (J. C. Park); 2 ♂, 1 ♀, Chuncheon, GW, 10. VI. 1985 (K. T. Park)-gen. slide no. 2128 (female); 1 ♀, Mt. Chiak, GW, 23. VI. 1977 (Kuroko); 1 ♂, Hongcheon, GW, 26. VI. 1986 (S. H. Lee); 1 ♂, Mt. Samag, GW, 12. V. 1985 (S. B. Ahn); 1 ♂, Mt. Weolak, CB, 20. VI. 1984 (S. B. Ahn); 1 ♀, Koryo(?), 7. VI. 1923 (Y. Hasegawa); 1 ♂, Sharei(?), 9. VII. 1929 (Y. Hasegawa).

(Materials from abroad) *T. fenestrella*: 1 ♂, Herkulesbad, 5. VII. 1907 (W. R. & E. H.)-gen. slide no. 11629 (H. Inoue); 1 ♀, Env. de Vernet I. B. Ete 1887 (Ch & R. Oberthur)-gen. slide no. 11630 (H. Inoue); 1 ♂, 1 ♀, Russhaius, W. Germany, 10. Jul. 1988 (Thiele)-gen. slide no. 1892 (Park) & 1893 (Park).



Figs. 5-8. 5. *Thyris fenestrealla seoulensis* subsp. nov., male genitalia, 5a. ditto, of gnathos & pseudounicus, 5b. ditto, ampulla, 6. ditto, aedeagus, 7a. *Thyris fenestrealla ussuriensis* Z. (redrawn from Zagulyaev, 1986), 7b. ditto, ampulla. 8a. *Thyris fenestrealla* Scopoli, part of gnathos & pseudounicus, 8b. ditto, ampulla.

*T. usitata*: 1 ♂, Yakao-san, Japan, 13. May. 1950 (S. Sugi)-gen. slide no. 11631 (H. Inoue); 1 ♀, Yokohama, Japan, 30. Jan. 1959 (H. Inoue)-gen. slide no. 11632 (H. Inoue).



Figs. 9-10. Female genitalia : 9. *Thyris fenestrella seoulensis* subsp. nov., 10. *Striglina cancellata* (Christoph).

**Biology.** Moths appear from the middle of May to the middle of August. Larval host plants unknown.

**Distribution.** Korea.

**Remarks.** Seitz (1912) cited Korea in the distributional range of *usitata* and suggested this species would be a local form of *fenestrella*. Recently Thiele (1986) reviewed the genus *Thyris* of the world and placed *ussuriensis* Zagulajov that has been known from Amur region as a subspecies of *usitata* Butler. He also described *siberica* from Mongolia as a new subspecies of *usitata* Butler and *siciliensis* from Sicily as a new subspecies of *fenestrella* Scopoli. However, in our opinion, the above subspecies, *ussuriensis* Z. and *siberica* Thiele were erroneously treated as subspecies of *usitata* by Thiele (1986, 1990) and they should be placed in the subspecies of *fenestrella* by the distinctive characters in the external and genitalic structures. The major problem with Thiele is that he did not examine sufficient materials and he had never seen the B. M. collections before he wrote his 1986 paper according to Shaffer (*pers. comm.*). In respect to the structure of male genitalia, *fenestrella*-group is easily separated from *usitata* by the basis of the arcuately bent uncus, long pseudonucus, and dentated costal margin of ampulla.

On the other hand, Mr. M. Shaffer is going to propose to place many of previously known subspecies and species, viz., *euxina* Obratzsov from Caucas (USSR), *infusata* Issekutz and *seminigra* Issekutz from Hungary, *kasachstanica* Zagulajev from Kazakhstan (USSR), and *siciliensis* Thiele from Sicily as synonyms of *fenestrella* in his new manuscript. The problem involves some overlaps of the subspecies and considerable variations within individuals even in the same region. Thus we are not yet in a true position to arrive at a conclusion for the status of our local population and it can be considered that another proposal of the synonymising *ussuriensis*, *siberica* and other subspecies would be the most logical solution, and Palaeractic *Thyris* would then consist only of *usitata* and *fenestrella*, as Mr. Shaffer suggested.

For the reasons all the previously described subspecies of *fenestrella* and *usitata* seem to be needed to define the status of true taxonomic position.

### *Striglina* Guenee 1877

*Striglina* Guenée, 1877, Annl. Soc. ent. Fr., (5): 7.

(Type species: *Striglina lineola* Guenée)

Synonym: *Daristane* Walker.

#### *Striglina cancellata* (Christoph) 창나방

(Figs. 10, 11, 12, 30)

*Striglina cancellata* Christoph, 1914, Dalla Torre, : 13; Zool. Soc. Kor., 1968, Nom. Anim. Korea, 2: 54; For. Res. Ins., 1969, A List For. Ins. Pests Kor., : 98; Whalley, 1976, Tropical Leaf Moths, : 68, figs. 30, 210, 355, 356, 550; Inoue, 1982, Moths of Japan, 1: 304, 2: 222, Pl. 35: 22-25.

*Striglina scitaria* Christoph, 1983, Insecta Koreana, 3: 157 (Misidentification).

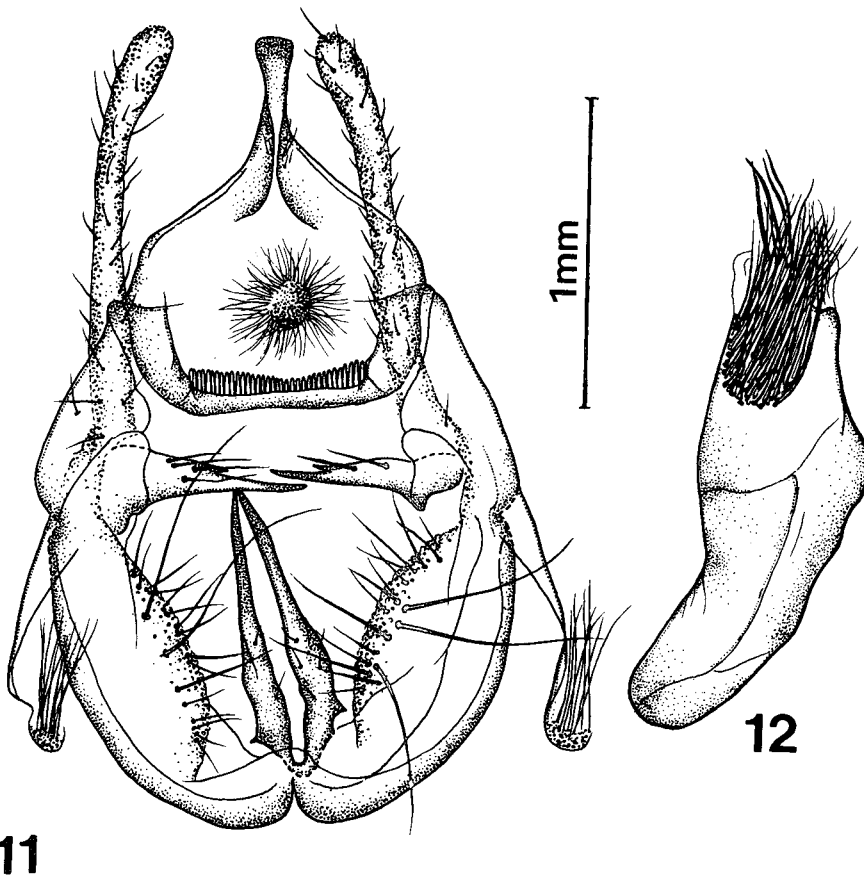
*Striglina paravenia* Inoue, 1982, Moths of Japan, 1: 394, 2: 222, pl. 35: 30-32, syn. nov.

**Male.** Wing expanse 19-25 mm in male, 23-25 mm in female. Forewing reddish brown, oblique dark line runs toward apex, nearly straight; costa nearly straight; apex somewhat pointed. Hindwing similar to forewing in coloration. This species is superficially very similar to *S. irresecta* which is distributed in India and Burma, and *S. venia* which has also been known from China.

**Male genitalia** (Figs. 11, 12). Uncus broader near apex, slightly indented near middle of distal margin; gnathos with more than 35 delicate teeth, median valve process strongly sclerotized, slightly curved beyond 3/4 or narrower toward tip; sacculus process not reaching median valve process. However some considerable variations in the shape of median and sacculus valve process are observed in the same local population. Aedeagus with a bundle of numerous cornuti.

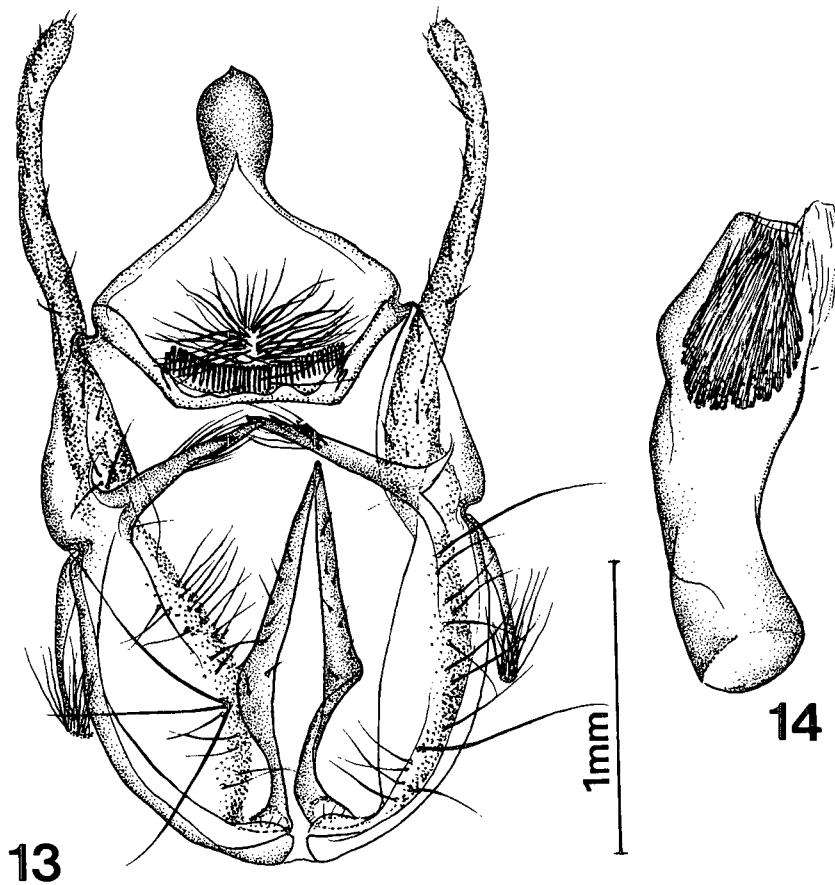
**Female genitalia** (Fig. 10). Lateral process of ostium triangular, with sharp distal angle; ductus bursae very long; corpus bursae large, ovate with two pieces of crescent-shaped, dentated signa, crossing at the upper part of corpus bursae.

**Material examined.** 1 ♀, Seoul, 16. VI. 1973 (Y. H. Shin); 1 ♂, 1 ♀, Seoul, 24. VII. 1972 (Y. H. Shin);



Figs. 11-12. 11. Male genitalia of *Striglina cancellata* (Christoph), 12. ditto, aedeagus.

1 ♀, Seoul, 24. VII. 1972 (Y. H. Shin); 1 ♂, 1 ♀, Suweon, GG, 21-25. VII. 1986 (S. B. Ahn); 1 ♂, Mt. Wolak, CB, 31. V. 1986 (S. B. Ahn); 1 ♂, 1 ♀, Suweon, GG, 1-2. IX. 1983 (S. B. Ahn); 1 ♀, Gwangleung, GG, 19. VI. 1983 (S. B. Ahn); 1 ♂, Suweon, GG, 11. VIII. 1980 (I. S. Kim); 2 ♂, 5 ♀, Suweon, GG, 23. VII. Suweon, GG, 11. VIII. 1980 (I. S. Kim); 2 ♂, 5 ♀, Suweon, GG, 23. VII. 1974 (K. T. Park); 1 ♂, Suweon, GG, 12. VI. 1974 (K. T. Park); ?. Suweon, GG, 30. VIII. 1983, (?); ?. Gwangleung, GG, 19. VI. 1983(?); 1 ♂, Suweon, GG, 12. VI. 1984 (K. T. Park); 1 ♀, Gwangleung, GG, 25. V. 1988 (K. J. Weon); 1 ♀, Gwangleung, GG, 31. V. 1986 (K. T. Park et U. Park); 1 ♂, Chuncheon, GW, 7. V. 1989 (K. T. Park et B. K. Byun)-gen. slide no. 2165; 1 ♂, 3 ♀, Chuncheon, GW, 2. VII. 1989 (K. T. Park et B. K. Byun); 1 ♂, Chuncheon, GW, 13. VII. 1989 (K. T. Park); 1 ♂, Mt. Samag, GW, 19. VII. 1989 (K. T. Park); 1 ♂, Seomyun, Chunseong, GW, 14. V. 1987 (K. T. Park); 1 ♂, Sogumgang, GW, 7. VII. 1988 (K. T. Park); 1 ♀, Chuncheon, GW, 5. VI. 1989 (K. T. Park et B. K. Byun)-gen. slide no. 2173; 1 ♀, Chuncheon, GW, 18. VII. 1989 (K. T. Park); 1 ♂, ?, 21. VII. 1986(?); 1 ♀, ?, 25. VII. 1986(?); 1 ♂, Mt. Gyeryong, CN, 6. VIII. 1980 (O. P. Oh); 1 ♂, Mt. Gyeryong, CN, 7. VIII. 1980 (H. C. Kim); 1 ♂, Mt. Gyeryong, CN, 6. VIII. 1980 (M. O. Kim); 2 ♀, Muju, JB, 12. VIII. 1975 (K. T. Park); 1 ♂, 2 ♀, Mt. Naejang, JB, 11. VI. 1975 (K. Y. Choi); 1 ♂, Mt.



Figs. 13-14. 13. Male genitalia of *Striglina venia* Whalley, 14. ditto, aedeagus.

Jiri, JN, 23. VII. 1984 (S. H. Kim); 1♀, Haenam, JN, 20. VIII. 1984 (I. S. Kim).

**Host plants.** *Lespedeza bicolor* T. and *Malus pumila* K. (Rosaceae) are known for the first time. *Castanea crenata* S. et Z. (Fagaceae) is also reported from Korea. It also has been known that this species feeds on the leaves of *Quercus* and *Castanea* sp. (Fagaceae) in Japan.

**Distribution.** Korea, Japan, China, USSR (Amur).

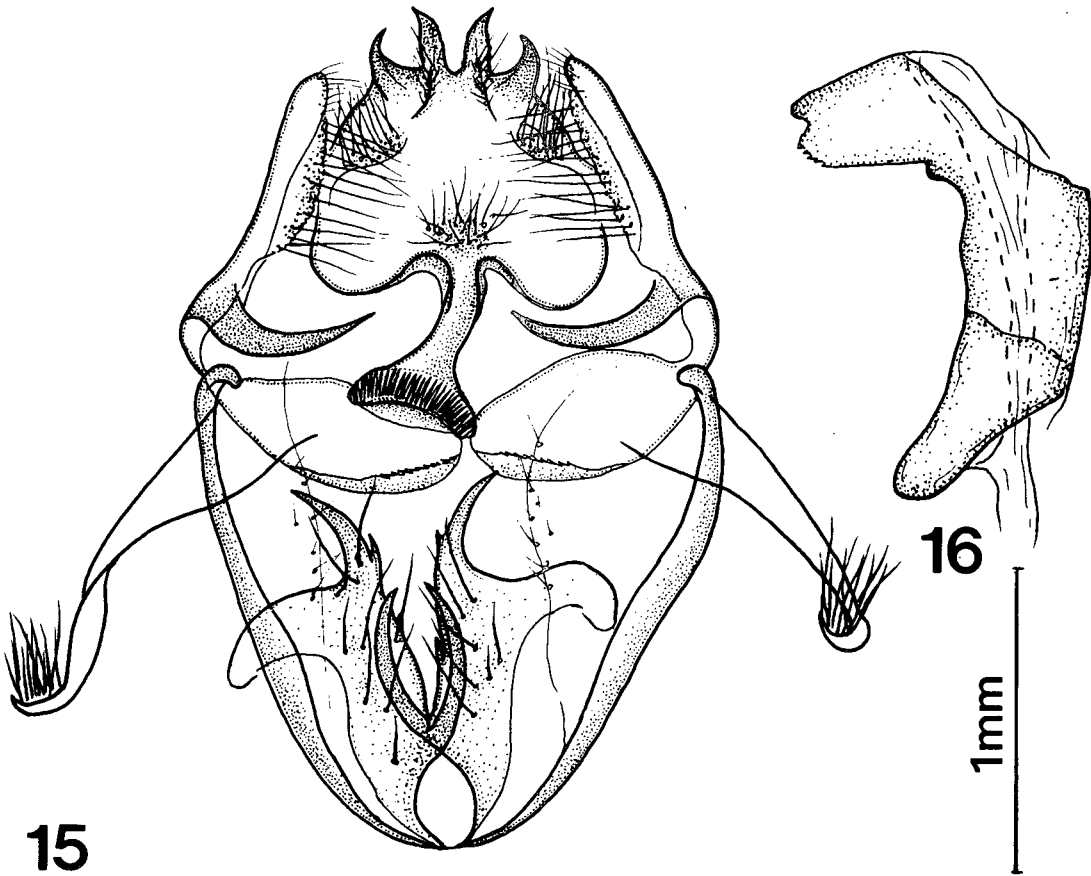
**Remarks.** There are some considerable variations in the male genitalia of this species, especially in the shape of uncus and median valve process. The differences seem to be intraspecific variation.

*Striglina venia* Whalley 주엽나무창나방(新稱)  
(Figs. 13, 14, 31)

*Striglina venia* Whalley, 1976, Tropical Leaf Moths, : 67, figs. 29, 209, 354, 461, 548; Inoue, 1982, Moths of Japan, 1: 304, 2: 222, pl. 35:26-29.

**Male.** Wing expanse 18-20 mm. No remarkable differences were found in the external





Figs. 15-16. 15. Male genitalia of *Striglina fixseni* Alpheraky, 16. ditto, aedeagus.

appearance between this species and *cancellata*, however it can be separated by the oblique brown line on the fore wing which runs toward below apex and obscure from about the end of disc-cell while straight towards apex in *cancellata*. Generally it is smaller than *cancellata* in size. Whalley (1976) suggested that female of this species was uncertain because he described and designated the specimen of female collected from Sia Lau, China as its holotype, where is the same place with the type locality of *S. cancellata*.

**Male genitalia** (Figs. 13, 14). Uncus rather rounded, apical margin with a point at middle. Median valve process somewhat broad, with strong spiny papilla laterally; saccus valve process very elongate, longer than *cancellata* in size, reaching over median valve process. Aedeagus similar to the latter.

**Female.** Unknown.

**Material examined.** 1 ♂, Isl. Shinsido, west of Gunsan, JB, 26. VIII. 1980 (Y. H. Shin); 1 ♂, Suweon, GG. 21. VII. 1983 (S. B. Ahn).

**Host plant.** *Gleditsia japonica* var. *koraiensis* N. (Leguminosae) is reported for the first time.

**Distribution.** Korea (New record), China.

***Striglina fixseni* Alpheraky** 그물무늬창나방 (新稱)

(Figs. 15, 16, 17, 32)

*Striglina fixseni* Alpheraky, 1897, In Romanoff, Mem. Lepid., 9: 167; Whalley, 1976, Tropical Leaf Moths, : 66, fig. 27, 353, 460, 549.

**Male and female.** Wing expanse 22-31 mm. Head greyish brown; labial palpus very short. Forewing paler greyish brown with many darker lines, having two conspicuous lines from near 2/3 of costa to middle of inner margin and from the same point to near 2/3 of termen; costa smoothly arched beyond 3/4; apex more or less pointed. Hindwing greyish brown. Female usually darker than male in colour of wing.

**Male genitalia** (Figs. 15, 16). Uncus deeply bifurcate, with pointed lateral process; gnathos covered with numerous teeth, forming round margin distally; transtilla broad; median valve process sclerotized, horn-shaped, curved beyond half; sacculus process with strong spine-line inner lateral process near 1/3 and inner distal end.

**Female genitalia** (Fig. 17). Ostium weakly sclerotized; ductus bursae nearly same as corpus bursae in length; corpus bursae ovate, with two dentate signa, positioned transversally at the distal 1/3 of corpus bursae.

**Material examined.** 1♀, Gwangleung, GG, 6. VI. 1986 (K. J. Weon); 2♂, Mt. Samag, GW, 19. VII. 1989 (K. T. Park); 1♀, Chuncheon, GW, 18. VII. 1989 (K. T. Park); 2♂, Mt. Backdeok, GW, 4. VI. 1981 (H. I. Lee)-gen. slide no. 2131, 2147; ?, Weoljeong Temple, GW, 23. VII. 1922(?) 1♀, Mt. Jiri, JN, 19. VII. 1981 (K. T. Park)-gen. slide no. 2178.

**Distribution.** Korea.

**Remarks.** This species is endemic to Korea. It was described with only female specimens from Chemulpo (its present name is Incheon, 70 Km west of Korea) that was collected by Leech (1886 ?) and given to Alpheraky. But it has not been presented in any other literature except Whalley's revisional work (1976) with figure of genitalia of a female specimen. The syntype of this species has not been traced by him and only a female specimen was preserved in Nat. Hist. Mus., collection in U. K.. Male was collected this time in Korea and here illustrated with the genitalia for the first time.

### *Rhodoneura* Guenée 1857

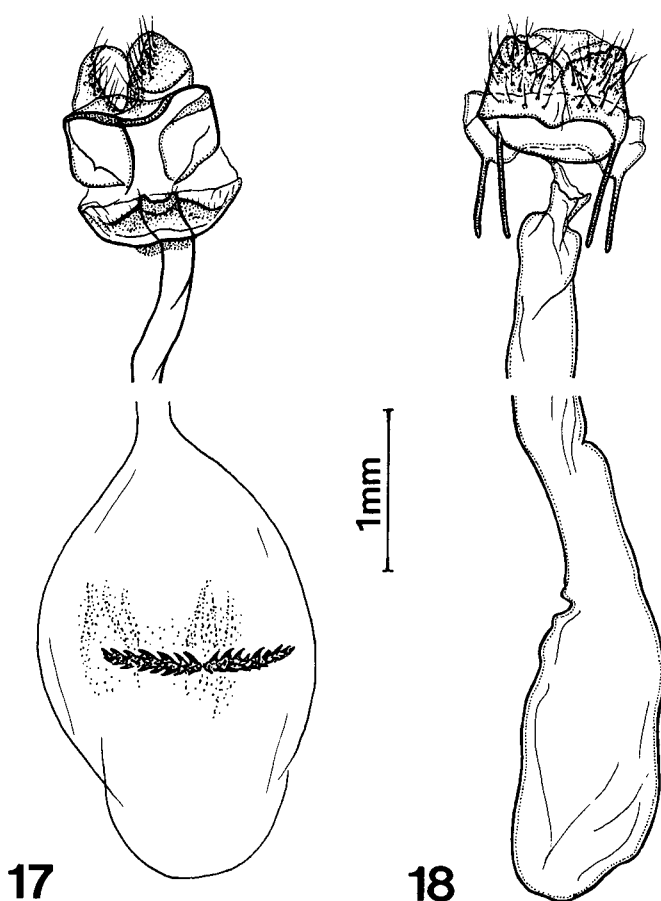
*Rhodoneura* Guenée, 1857, Hist. nat. Ins., Atlas, P. I, fig. 8.

(Type species: *Rhodoneura pudicula* Guenée)

***Rhodoneura vittula* Guenée** 상수리창나방

(Figs. 18, 19, 20, 33)

*Rhodoneura vittula* Guenée, 1877, Annl. Soc. Ent. Fr., (5)7: 301; Inoue, 1955, Check List Lep. Japan, 2: 198; For. Res. Ins., 1969, A List For. Ins. Pests Kor.,: 97; Inoue, 1982, Moths of



Figs. 17-18. Female genitalia: 17. *Striglina fixseni* Alpheraky, 18. *Rhodoneura vittula* Guenee.

Japan, 1: 305, 2: 222, Pl. 35: 42, 43; Park, 1983, Ill. Flora & Fauna of Korea, 27: 297, Pl. 18: 247; Park, 1983, Insecta Koreana, 3: 157.

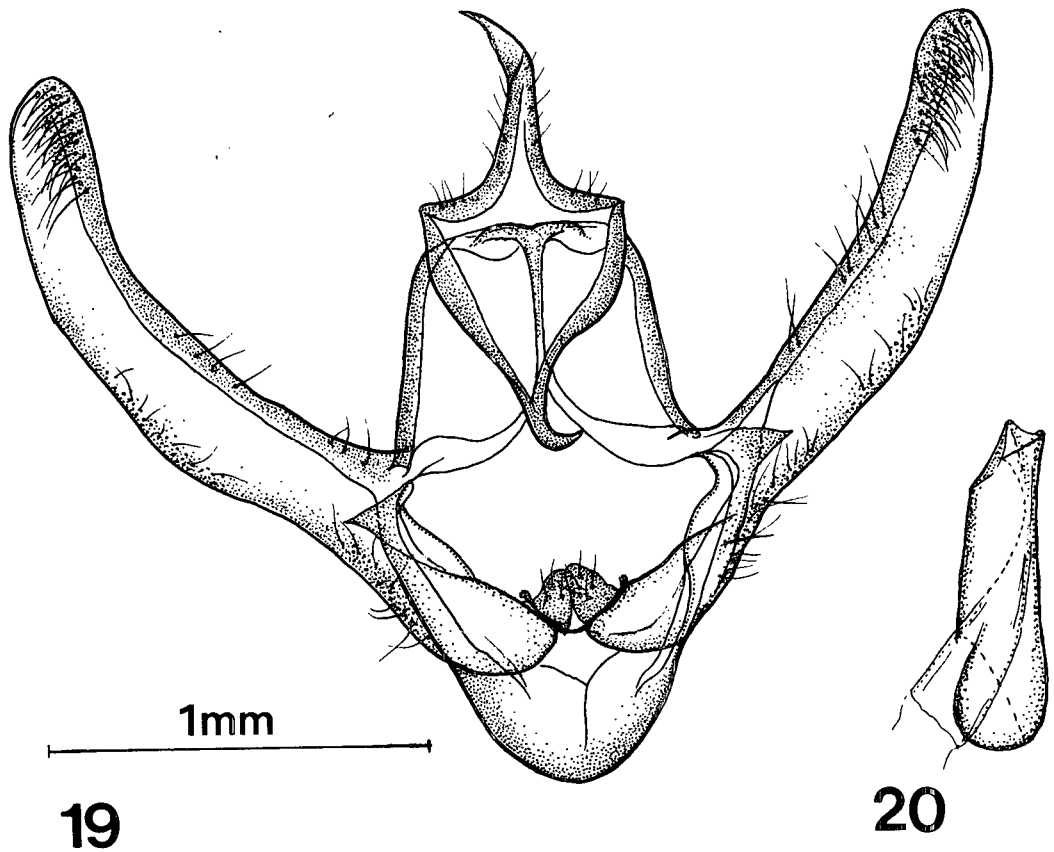
*Microscia exusta* Butler, 1879, Ill. Spec. Lep. Het. Col. B. M., 3: 71.

**Male and female.** Wing expanse 18-27 mm. Forewing, ground colour pale greyish yellow; median fascia broad, broader toward costa, with strong protrusion near middle on posterior margin, anterior margin smoothly incurved; subterminal fascia also broad, often forming triangular, reaching 2/3 of termen; anal fascia on tornus, often widened near base. Hindwing, median line usually broadened, often with a cross on anal vein; postmedian line faint and indented.

**Male genitalia** (Figs. 19, 20), Uncus slender, pointed apically. Gnathos weakly sclerotized. Valva moderately slender, sclerotized along costa, smoothly curved. Juxta papillate, covered with short setae. Aedeagus stout, nearly straight.

**Female genitalia** (Fig. 18). Ostium simple; ductus bursae very broad, nearly no distinct separation between ductus and corpus bursae; signum absent.

**Material examined.** 1 ♂, Gwangleung, GG, 14. V. 1988 (K. J. Weon)-gen. slide no. 2407; 1 ♂,



Figs. 19-20. 19. Male genitalia of *Rhodoneura vittula* Guenee, 20. ditto, aedeagus.

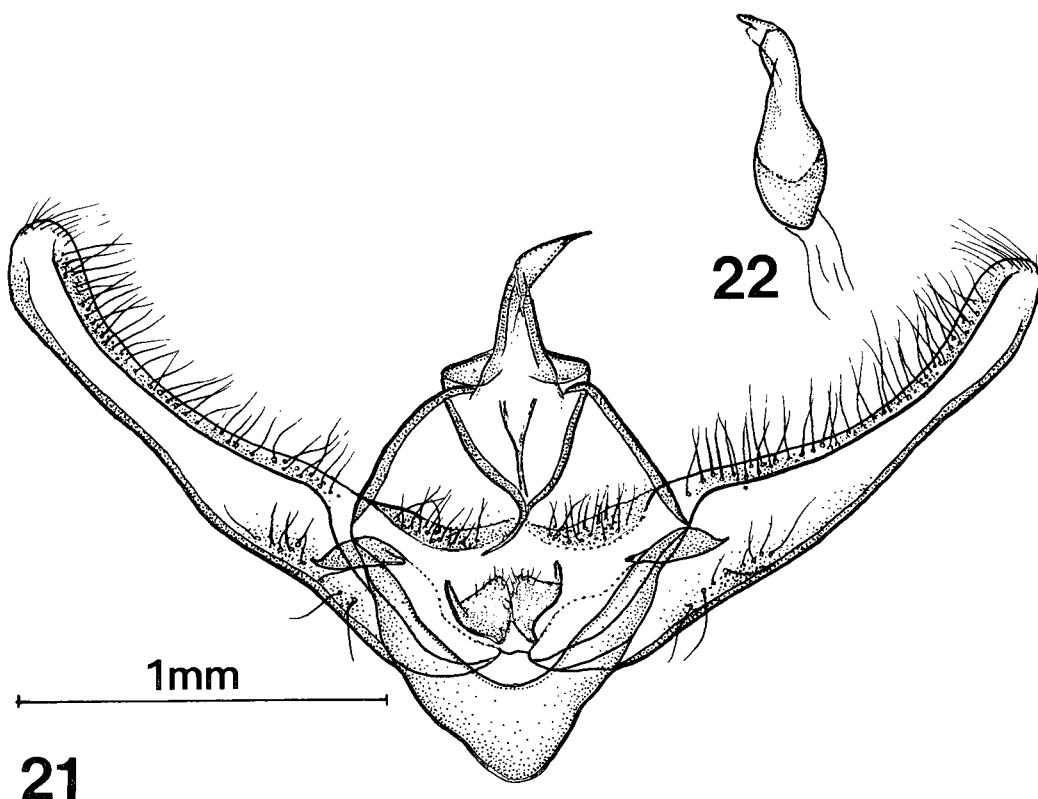
Gwangleung, GG, 13. VII. 1984 (K. J. Weon)-gen. slide no. 2103; 2♂, Mt. Yeogi, GG, 20. III. 1987 (S. B. Ahn)-gen. slide no. 2418, 2419; 1♂, Suweon, GG, 3. VII. 1986 (S. B. Ahn)-gen. slide no. 2176; 1♀, Suweon, GG, 21. VI. 1976 (K. T. Park); ?, Suweon, GG, 26. IV. 1922(?) 1♂, Mt. Chiak, GW, 10. VI. 1977 (S. S. Yun); 1♂, Mt. Gyeryong, CN, 6. VIII. 1980 (H. C. Kim); 1♂, Mt. Gyeryong, CN, 8. VIII. 1980 (H. C. Kim); 1♂, Mt. Gyeryong, CN, 7. VIII. 1980 (H. C. Kim); 1♀, Hweangsung, GW, 19. V. 1984 (K. T. Park)-gen. slide no. 2104; 1♂, Mt. Jiri, JN, 17. VIII. 1984 (K. C. Kim); 1♂, 1♀, Shakuoji (present name of locality is Mt. Seokwangsa in Mt. Seolbong, N. Korea), 14. VIII. 1922 (Y. Hasegawa); ?, Dainenji(?), 1. VIII. 1922 (Y. Hasegawa).

**Distribution.** Korea, Japan, N. China.

**Host plants.** *Corylus heterophylla* var. *thunbergii* B. (Betulaceae) is known for the first time from Korea. *Quercus serrata* T. and *Q. acutissima* C. (Fagaceae) have been known from abroad.

**Remarks.** There are some considerable variations in colour and markings of forewing.

*Rhodoneura erecta* (Leech) 꼬마상수리창나방  
(Figs. 21, 22, 23, 34)



Figs. 21-22. 21. Male genitalia of *Rhodoneura erecta* (Leech), 22. ditto, aedeagus.

*Microsca erecta* Leech, 1889, Entom., 22: 66.

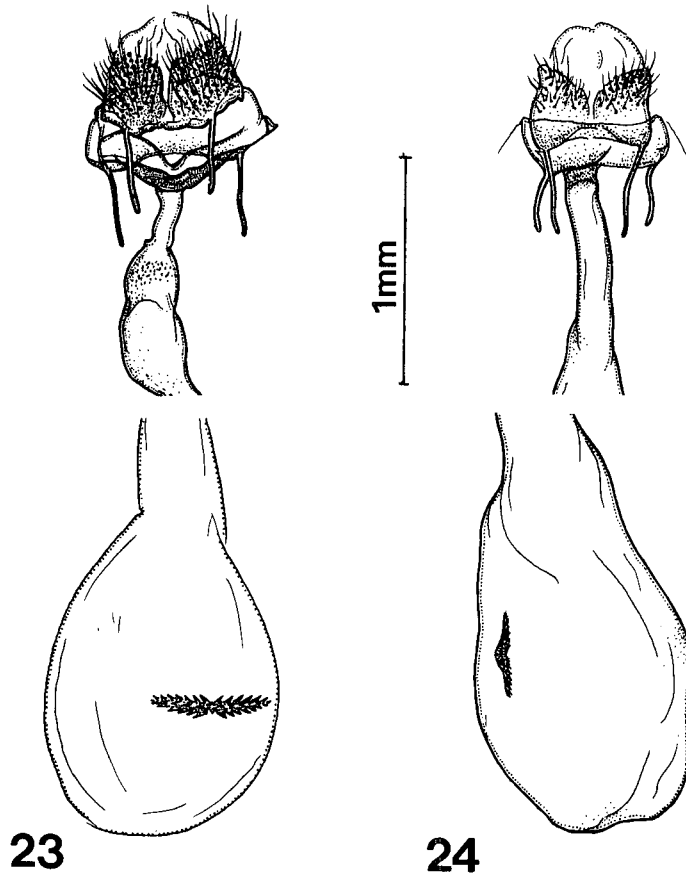
*Rhodoneura erecta*: Inoue, 1982, Moths of Japan, 1: 305, 2: 222, Pl. 35: 44; Park, 1983, Ill. Flora & Fauna of Korea, 27: 297; Park, 1983, Insecta Koreana, 3: 158.

**Male and female.** Wing expanse 18-20 mm. This species is externally quite similar to the preceding species, but it can be separated from the latter by the following characters: median fascia on forewing weaker, no strong protrusion along posterior margin, median and subterminal fascia forming round shape along inner margin. Hindwing with median line not broad as much as in the preceding species.

**Male genitalia** (Figs. 21, 22). Very similar to the preceding species, but valva prominently narrowed near 2/3, whereas smoothly curved or convex along ventral margin in *vittula*. Aedeagus narrowed toward apex.

**Female genitalia** (Fig. 23). Lamella postvaginalis elongate laterally; antrum short and enlarged with dense particles; ductus bursae relatively short; corpus bursae ovate; signum with strong dentation along both sides, consist of two pieces positioned near middle.

**Material examined.** 1 ♂, Gwangleung, GG, 17. VII. 1985 (K. T. Park); 1 ♂, Seomyun, GW, 30. V. 1987 (K. T. Park); 1 ♂, 1 ♀, Sogumgang, GW, 6. VII. 1988 (K. T. Park)-gen. slide no. 2105; 1 ♂,



Figs. 23-24. Female genitalia: 23. *Rhodoneura erecta* (Leech), 24. *Rhodoneura pallida* (Butler).

2♀, Sogumgang, GW, 7. VII. 1988 (K. T. Park)-gen. slide no. 2106.

**Distribution.** Korea, Japan.

*Rhodoneura pallida* (Butler) 흰점무늬창나방(新稱)

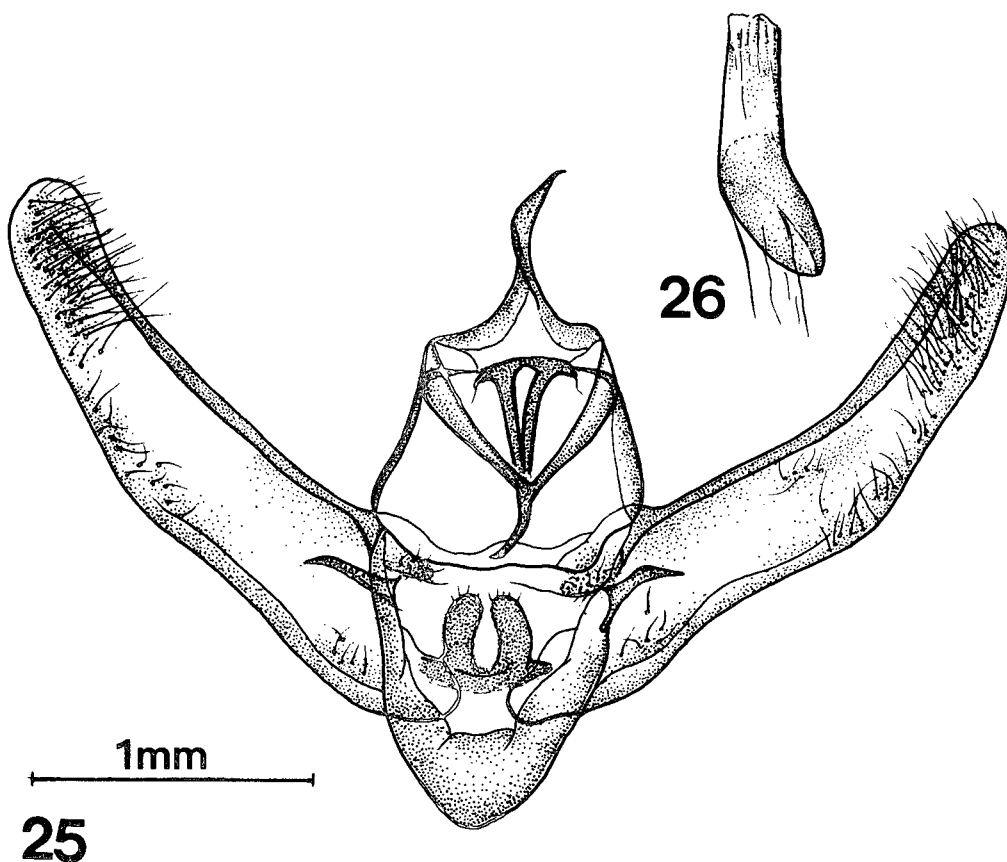
(Figs. 24, 25, 35)

*Rhodoneura pallida*: Inoue, 1982, Moths of Japan, 1: 305, 2: 222, Pl. 48.

*Microsca pallida* Butler, 1879, Ill. Typ. Spec. Lep. Het. Coll B. M., 3: 71, Pl. 58: 7.

**Female.** Wing expanse 24-26 mm. Forewing paler than the preceding species, antemedianfascia obscure; median fascia brown, obscure above middle; 2-3 black spots along vein M3 between median and subterminal fascia; subterminal fascia developed only near tornus; a well distinct large white spot obliquely positioned below apex. Hindwing with median and postmedian fascia clearly developed.

**Female genitalia** (Fig. 24). Ostium simple; ductus bursae short, about 1/2 of corpus bursae in length; corpus bursae very large, semiovate; signum rather small, vertically positioned near middle.



Figs. 25-26. 25. Male genitalia of *Rhodoneura shini* sp. nov., 26. ditto, aedeagus.

**Material examined.** 1 ♀, Gwanglung, GG, 26. VII. 1987 (K. J. Weon) — gen. slide no. 2134; 1 ♀, Mt. Jiri, JN, 17. VIII. 1984 (Y. S. Bae) — gen. slide no. 2135.

**Distribution.** Korea (new record), Japan, China.

*Rhodoneura shini* sp. nov. 줄무늬창나방 (新稱)

(Figs. 25, 26, 27, 36)

**Male and female.** Wing expanse 22–26 mm. Head greyish brown. Second segment of labial palpus slender, upcurved from basal third, light yellow to greyish yellow, speckled with yellowish brown on dorsal and lateral sides; terminal segment yellowish brown, about 1/3 of the second in length. Forewing elongate, costa almost straight to near apex; termen convex beyond middle. Ground colour pale yellow or yellowish white; antemedial line single, incurved; median line margined with greyish yellow area anteriorly, followed by a large postmedial fascia which elongated from costa to inner margin and strongly protruded outwardly; subterminal line from before apex to beyond middle of termen, nearly straight. Venation with  $R_1$  arising from distal 3/4 of cell;  $R_3$  and  $R_4$  anastomosed to

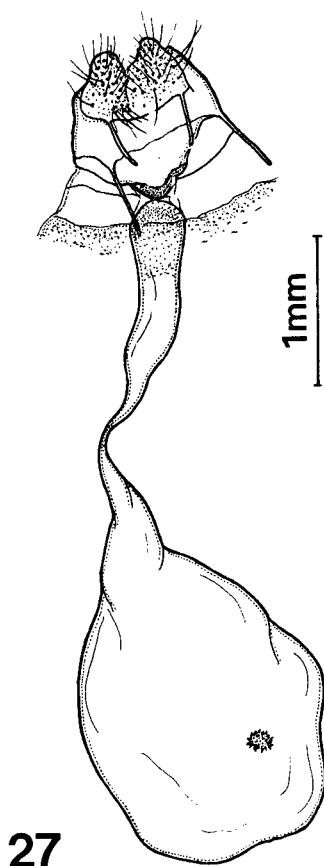


Fig. 27. Female genitalia of *Rhodoneura shini* sp. nov.

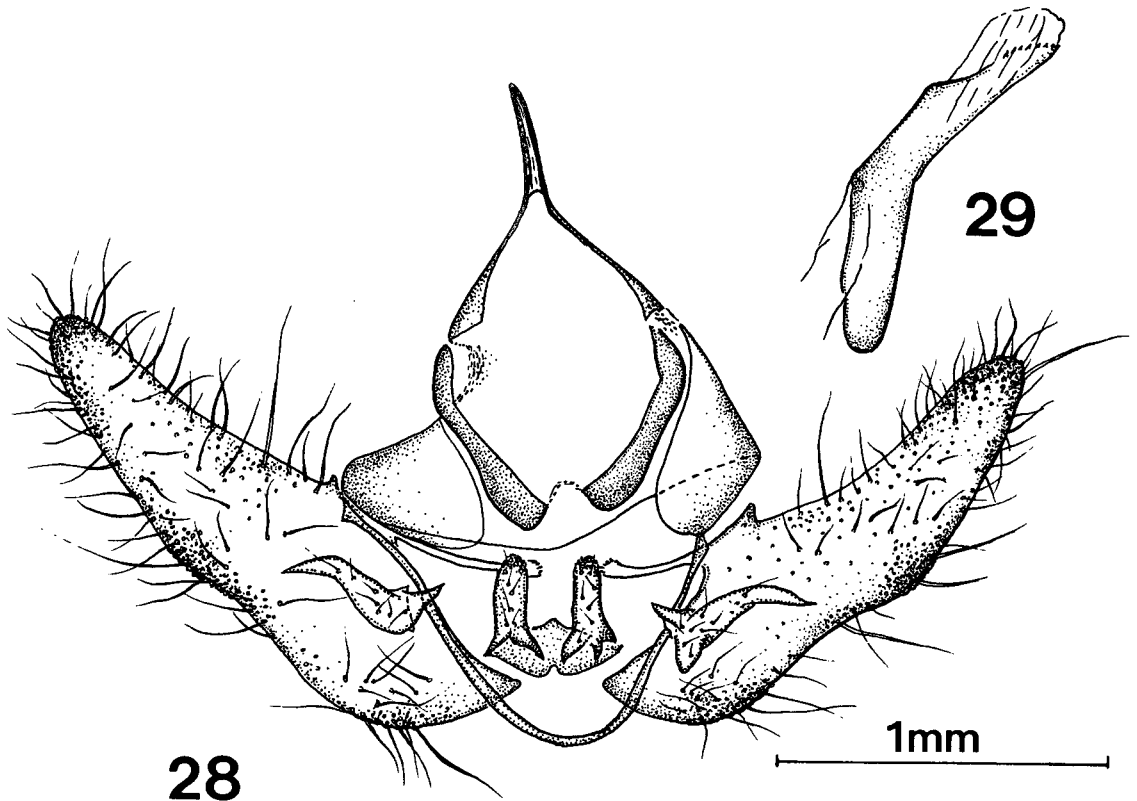
a short stalk;  $R_5$  apart from  $R_3$ — $R_4$ ;  $M_1$  arising from middle;  $M_3$  approximated to  $CuA_1$ ;  $CuA_2$  from distal 2/3 of cell. Hindwing as same colour as forewing in ground colour; median line relatively distinct, followed by greyish yellow suffusion outwardly; postmedian and subterminal line often indistinct. Venation with  $R_5$  free from Sc;  $M_1$  derived from  $R_1$  near upper angle of the cell;  $M_2$  apart from  $M_3$ ;  $M_3$  connate to  $CuA_1$ .

**Male genitalia** (Figs. 25, 26). Uncus rather broad, somewhat tapering to sharply pointed tip in terminal portion. Arms of gnathos slender, weakly sclerotized, with sickle-shaped termination. Valva elongate, slightly expanded near middle and then narrower towards distal end; free membranous process at base rather elongate, with pointed tip. Juxta process large, tongue-shaped. Aedeagus with bulbous base, bent near middle.

**Female genitalia** (Fig. 27). Lamella postvaginalis rather elongate laterally, distal margin incurved; antrum widened; ductus bursae slightly longer than corpus bursae; signum stellate.

**Material examined.** Holotype: male, Mt. Odae, GW, 25. VI. 1989 (K. T. Park) — gen. slide no. 2408; Paratypes: ?(abdomen missed), same locality and date as holotype: 2 ♂, Mt. Deogyu, JB, 7.





Figs. 28–29. 28. Male genitalia of *Sericophara guttata* (Christoph), 29. ditto, aedeagus.

VII. 1982 (J. H. Jeon), 1 ♀, 21. VII 1982 (J. H. Jeon): 10 ♂, 3 ♀, Mt. Jiri, JN, 6–7. VII. 1982 (Y. H. Shin) – gen. slide no. 2503 (Male), 2133 (female).

**Remarks.** Mr. M. Shaffer, Nat. Hist. Mus, London, suggested that this species might belong to the genus *Pharambara* Walker, but the authors couldn't find any convincing differences of this species from the genus *Rhodoneura*. Thus we tentatively place this new species in the genus *Rhodoneura*. Known range of distribution of the genus *Pharambara* Walker is mostly Oriental region including Fiji and Queensland, with only 9 known species to date.

*Sericophara* Christoph, 1881

*Sericophora* Staudinger, 1892, misspelling.

⟨Type species : *Sericophara guttata* Christoph, 1881⟩

Synonym : *Bupalomima* Gaede,

*Sericophara guttata* Christoph 점무늬큰창나방 (新稱)

(Figs. 28, 29, 37)

*Sericophara guttata* Christoph, 1892, Bull. Soc. imp. Nat. Moscou 55(3): 64, 65.

*Rhodoneura guttata*: Seitz, 1912, Die Gross-Schmet. Der Erde, 2: 373, Pl. 50f.

Synonym: *Siculodes lucidulina* (Poujade), 1894.

**Male.** Wing expanse 27–29 mm. Forewing with costa almost straight, apex rather acute with weak emargination below apex; termen strongly convexed near middle, then slightly concaved. Korean specimens look somewhat different from the figure by Seitz (1912, 50f); generally darker, transparent yellowish white marks on both wings much more reduced, a mark near apex small and round, another beyond antemedian fascia often indistinct, the largest mark in middle usually a round or an irregular form. Hindwing without yellowish white subterminal fascia; termen strongly convexed at middle.

**Male genitalia** (Figs. 28, 29). Uncus slender, strongly sclerotized. Gnathos with strong, broad arms, terminal portion very weak. Tegumen moderately sclerotized. Valva widened at base with a short process before 1/3 of costa; membraneous process near base rather large, curved near distal 2/3 with pointed tip; ventral margin slightly concaved before middle and then narrowed toward distal end. Juxta process well developed. Aedeagus slender, curved near middle, weakly dentate at tip.

**Female.** Unknown.

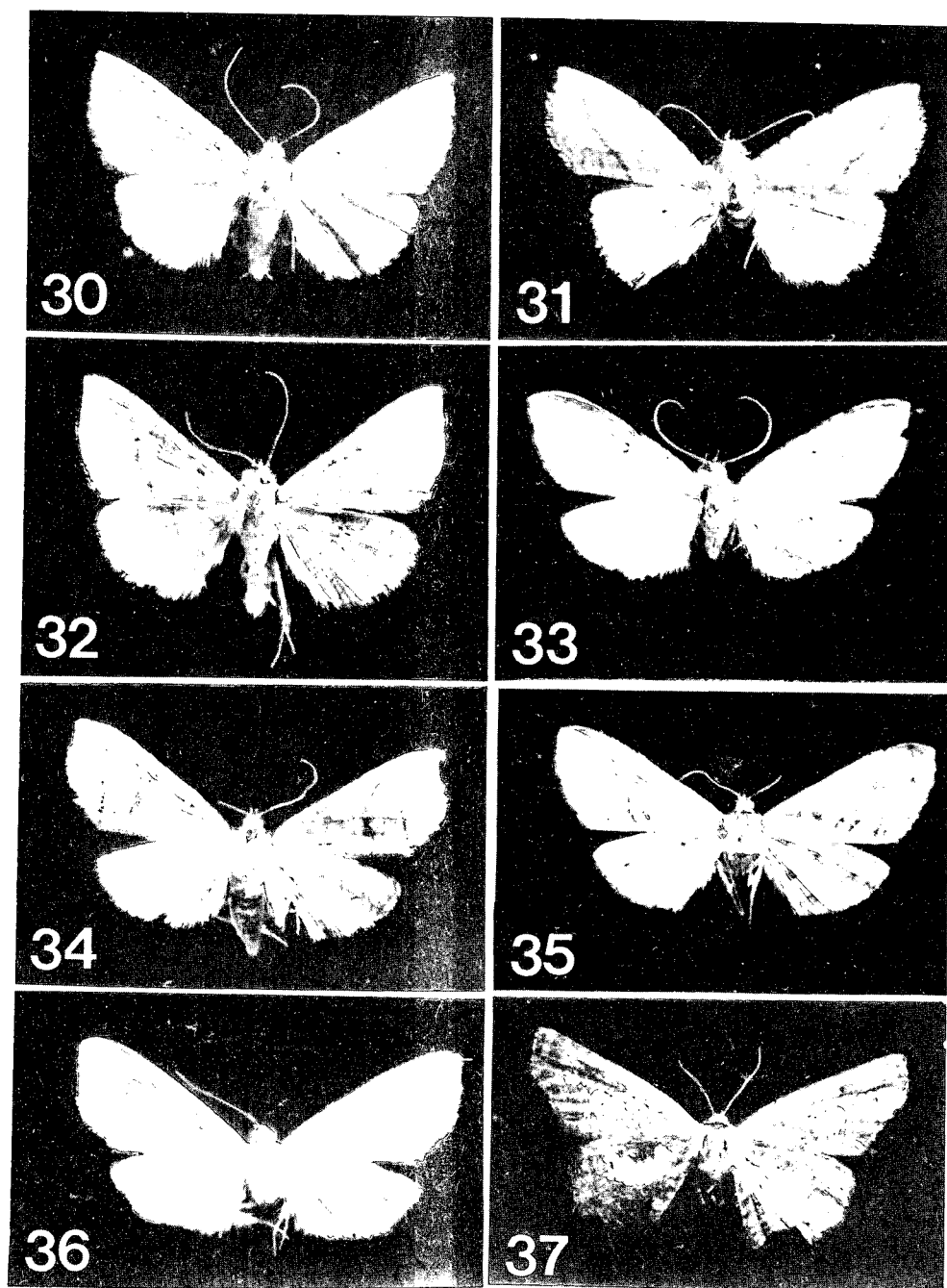
**Material examined.** 1 ♂, Gwangleung, GG, 11. VII. 1986 (K. J. Weon) – gen. slide no. 2137; 1 ♂, Gwangleung, GG, 13. VIII. 1986 (K. J. Weon) – gen. slide no. 2136; 1 ♂, Mt. Jugeum, GG, 5. VII. 1982 (K. J. Weon).

**Distribution.** Korea, China, Ussuri region.

**Remarks.** Seitz (1912) cited Korea in the distributional range of *guttata* and it was the first record of this species from Korea. However it has been missed in the Korean literatures to date. “The species is distributed throughout Asia and appears to be very rare in Korea. Mr. Shaffer suggested as follows: The problem involves the true status of two other described species, namely, *S. hypoxantha* (Hampson, [1893]), described from three syntypes from Musooree in N. India, Sikkim and Burma; and *S. kwangtungensis* (Gaede, 1932) described from Kwangtung, China. It is highly likely that *guttata*, *hypoxantha* and *kwangtungensis* are all conspecific. The present distributions of the species are: *guttata*—Tibet, China, Korea and Japan; *hypoxantha*—N. India, Sikkim, Bhutan and Burma; *kwangtungensis*—China. In external appearance at least, there seems to be some overlap of the species. The syntype from Burma of *hypoxantha* appears to be more clearly *guttata* and the more one closely examines the material available, the more it appears that it is all one species and that dissection may reveal clearly defined subspecies. On this assumption it would seem most likely that Korean specimens would be referable to the nominate subspecies of species, and that a range of subspecies can be defined from the key areas of N. India, China and E. Siberia.”

## REFERENCES

- Alpheraky, S. 1897. Lepidoptera de l'Amous et de la coree. In Romanoff, Mem. Lepid., 9: 151–184.  
 Christoph, H. 1892. Neue Lepidopteren des Amurgebietes. Bull. Soc. Imp Nat. Moscou, 55(3): 64–65.



Figs. 30—31. Adults: 30. *Striglina cancellata* (Christoph), 31. *S. venia* Whalley, 32. *S. fixseni* Alpheraky 33. *Rhodoneura vittula* Guenee, 34. *R. erecta* (Leech), 35. *R. pallida* (Butler), 36. *R. shini* sp. nov, 37 *Sericophara guttata* Christoph.

(1): 85.

Forest Research Institute. 1969. A List of Forest Insect Pests in Korea, : 97-98.

Hirashima, Y. 1989. A Check List of Japanese Insects, II: 940-941.

Inoue, H. 1955. Check List of the Lepidoptera of Japan, Part2 : 197-201

Inoue, H. 1982. Thyrididae in Inoue et al., Moths of Japan, 1: 303-307, 2: 222-223, Pl. 35-36.

Korean Society of Plant Protection. 1986. List of Plant Disease Insect Pests and Weeds in Korea, : 211.

Park, K. T. 1983. Microlepidoptera of Korea, Insecta Koreana, Ser., 3: 157-158.

Seitz, A. 1912. Thyrididae in Seitz, Die Gross-Schmetterlinge der Erde, 2: 373, Pl. 50: e-f.

Shin, Y. H., K. T. Park & S. H. Nam. 1983. Illustration Flora & Fauna of Korea, Vol. 27 (INSECTA IX): 37, 295-297, Pls. 18: 245-247.

Thiele, J. H. R. 1986. Die Gattung *Thyris* Hoffmannsegg, 1803 über die Ergebnisse der Untersuchungen für eine Monographi, Atlanta, 17: 105-146.

Thiele, H. R. 1990. *Thyris sinicaensis* sp. nov., ein chinesisches Fensterschwärmerchen (Lepidoptera, Thyrididae) Entomofauna, 11(1): 1-8.

Whalley, P. E. S. 1976. Tropical Leaf Moths, A Monograph of the subfamily Striginae (Lepidoptera: Thyrididae), 141pp, 68 pls.

Zagulajev, A. K. 1986. New species of Moths (Lepidoptera: Psychidae, Thyrididae, Pterophoridae) in the fauna of the USSR, Entom. Rev., 65(1): 136-167.

Zool. Soc. Kor. 1968. Nomia Animalium Koreanorum, 2:54.

## 韓國產 창나방科의 分類學的 整理

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韓國產 창나방科의 정리 결과 총 9종이 밝혀졌으며 이들중 1新種, *Rhodoneura shini* sp. nov. (줄무늬창나방), 1新亞種 *Thyris fenestrella seoulensis* subsp. nov. (깜둥이창나방)이記載되며 우리나라 未記錄種으로 *R. pallida*(Butler) (흰점무늬창나방)와 *Striglina venia* Whalley(주엽나무창나방)이 확인되었다. *Striglina pararenia*는 *cancellata*의 synonym으로 처리하였으며 과거 기록되었던 *T. usitata*는 *T. fenestrella*의 誤同定으로 확인되었다. 本 조사를 통하여 새로 밝혀진 기주식물로는 창나방의 싸리나무와 사과나무, 주엽나무창나방의 주엽나무, 상수리창나방의 개암나무등이었다.

검색어 : 분류, 나비目, 창나방科